



CPI – The Inflation Statistic

January 2006

Agenda

	Page
Core versus Headline Inflation	2
Technical Factors Keeping Core Low	6
Outlook for 2006	16

Core Inflation vs. Total Inflation

- Petroleum based inflation has pushed total inflation above core inflation for the past three years.
- When total inflation runs above core it is tempting to believe that focusing on the core is missing something.
- The long run shows it makes little difference which inflation measure you use.

	Core Inflation	Total Inflation
2005	2.2%	3.4%
2002-2005	1.8%	2.8%

	Since 1973	
	Core Inflation	Total Inflation
Annual Inflation	4.7%	4.7%
Volatility	2.8%	3.2%

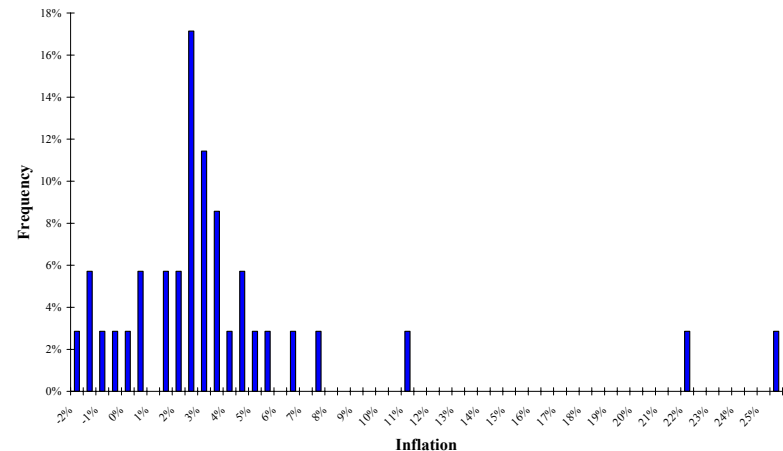
Why focus on Core Inflation? – A Statistical View

- Core inflation is a better predictor of future inflation.
- Total inflation predictability drops off after one year.

Inflation Autocorrelation		
Months Out	Core Inflation	Total Inflation
1	.99	.99
12	.83	.80
24	.67	.54
36	.52	.39
48	.51	.35

- Why use the average when the median is just as valid?

2005 Inflation Distribution



Why Focus on Core Inflation? – A Policy View

- Changes in food and energy prices are a relative price change story, and are beyond the Fed's control.
- The Fed is concerned with fighting forward inflation; they cannot change prices at the store today.
- Fed reaction to price changes in inelastic goods is counterproductive.

Agenda

	Page
Core versus Headline Inflation	2
Technical Factors Keeping Core Low	6
■ Owners Equivalent Rent	
■ Hedonic Adjustments	
■ Chained Weighting	
Outlook for 2006	16

Owners Equivalent Rent (OER)

- Very important
 - Accounts for 23% of total CPI, 30% of core inflation, and 40% of service inflation.

- Not well understood
 - Everyone knows housing prices have gone through the roof, yet OER has barely budged.

- Running below total inflation
 - 2.5% in 2005, 2.3% in 2004, 2.0% in 2003

Owners Equivalent Rent

- Designed to measure the consumption portion of housing, not the asset portion.
- The BLS measures rents in high home ownership areas to build its rental indices.
 - Does this introduce bias?
- Utility price increases will *decrease* OER
 - If you have a fixed monthly payment and the utility part goes up, by definition the rent portion must go down.

Hedonic Adjustments

- An attempt to adjust price increases for quality improvements.
- How much of that \$1 price increase was due to quality improvements and how much was due to price increases?
- Quality adjustments are different from the addition of new features which can be measured (airbags in autos) and is thus considered *fuzzier*.

Hedonic Adjustments – The Good Case

- Lotus 1-2-3 cost \$495 in 1982 for the IBM PC¹.
 - Contains 15 operators, 41 functions, and 66 commands.
 - 8192 Rows and 256 Columns.

- Microsoft Excel 2003 costs \$229 today.
 - 65536 rows and 256 Columns.
 - 53 Financial Functions alone.
 - Full programming language imbedded in it.
 - Let's face it, too many features.

- What is the disinflation rate of spreadsheet programs?

¹ Source: Byte issue 12/1982 pp 182-198

Hedonic Adjustments – The Bad Case

- Virtually anything with a price ceiling is susceptible to bad hedonic adjustments.
 - What happens to the quality of Bazooka gum when sugar prices go up?
- Cost centers for firms typically decline in quality.
 - Does anyone like the current call center model?
- The BLS does not adjust inflation upward for quality losses, despite the use of positive hedonic adjustments.

Chain Weighting – Measuring Consumer Responses

- Economists often favor looking at inflation using chain weighted indices.
- These indices have dynamic baskets of goods to measure consumer's response to price changes.
- Almost always run lower than fixed weighted baskets since people do not usually substitute into higher priced goods.

Chain Weighting – A Simple Example

- Start with two goods that are close substitutes.
- The relative price moves make consumers change their basket of goods.
- Using the fixed basket ignores this shift in behavior and thus overstates inflation.

	Tennis Shoes		Running Shoes	
	Quantity	Price	Quantity	Price
2004	2	\$55	2	\$40
2005	3	\$50	1	\$55

Fixed Basket Inflation	
Inflation =	$[(2*50)+(2*55))/((2*55)+(2*40))-1$
=	$(210/190)-1$
=	10.5%
Chained Weighted Inflation	
Inflation =	$(((3*50)+(1*55))/((2*55)+(2*40)))-1$
=	$(205/190)-1$
=	7.9%

Why not chain weight the CPI?

- Keeping your standard of living constant.
 - If I really wanted to consume more tennis shoes I would have before the price change.
- The CPI is published by the Bureau of *Labor* Statistics and was originally designed to calculate COLA's for labor agreements.

Why does chain weighting matter for TIPS

- The BLS has moved the CPI towards a pseudo-chain weighted index.
 - Implicitly – The basket is updated more frequently
 - Explicitly – A substitution bias has been introduced for some items.

- Chain weighted indices are almost always lower than fixed weighted indices.
 - 2005 Total CPI 3.4%
 - 2005 Chained Weighted Total CPI 2.8%

Agenda

	Page
Core versus Headline Inflation	2
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NCA 2006 Inflation Outlook

- Most economists are expecting falling headline inflation and increasing core inflation for 2006.

- Without increasing oil prices; total inflation is bound to fall.

- We disagree about core inflation.

	Core	Total
Barclays	2.4%	3.0%
Lehman	2.3%	2.9%
JP Morgan	2.4%	2.6%
Deutsche Bank	2.7%	2.7%
Goldman Sachs	2.3%	3.1%
2005	2.2%	3.4%

	Core	Total
NCA Estimate	1.4%	1.2%
Risk	Lower	Significantly Higher

Why our forecast for core is so low – An anecdotal response

■ Recent Experience

- Fed cut rates to an unprecedented 1.0%
- Federal budget went from a surplus to a massive deficit
- Oil prices doubled (\$30 - \$60+)

■ What was the result

- Core inflation gently rose from 1.1% in 1/04 to 2.4% in 2/05
- Core has since dropped back down to 2.1%

- If inflation can barely rise in the face of all those factors, what will cause it to go up as 2 of the 3 factors go away?

Why our forecast is so low – A numerical response

- Core goods will have no real inflation, which is the consistent with 2005.
- Non-housing service inflation will run at 3%, or similar to trend.
- The wildcard then becomes, what does housing inflation do?

	Weight In Core	Forecast
Core Goods	28%	0.6%
Core Services	72%	See below

	Weight In Core Services	Forecast
Non-Rent	47%	3.0%
Rent	11%	?
OER	42%	?

Housing Inflation	Core Inflation
-4.0%	-0.3%
-2.0%	0.4%
0.0%	1.2%
2.0%	2.0%
4.0%	2.7%

What will housing do?

- Speculators will worry about the monthly carry on their property.
- The downside risk is that a slowdown in housing affects other sectors.
- In *econspeak*, the risk is that housing price collapse leads to a drop in monetary velocity.



Corner of Route 123 and Scotts Crossing in Mclean Virginia January 2006

Courtesy of <http://bubblemeter.blogspot.com>

Contact Information

NEW CENTURY ADVISORS, LLC

7272 Wisconsin Avenue
Suite 300
Bethesda, Maryland 20814

301.941.1933 | phone

301.215.6451 | fax

For more information, please visit our website at:

www.newcenturyadvisors.com

Or send an email to:

info@newcenturyadvisors.com

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